ACKNOWLEDGEMENT

I take this opportunity to express my deep sense of gratitude to Dr. R.N.Ram, Department of Chemistry, M.S. University of Baroda, Baroda for the stimulative instructions and constructive criticism received from him in the field of catalysis. I am indebted to him for his inspiring guidance and constant encouragement throughout the course of this work. Words fail to thank him for his invaluable contribution to my research work.

I am greatly indebted to Prof. A. C. Shah, Head, Department of Chemisty, M. S. University of Baroda and also to Prof. P. K. Bhattacharya, Ex-Head, for providing adequate laboratory facilities and guidance throughout the course of this study. I am thankful to Dr. B.V.Kamath for his guidance and fruitful discussions.

I am thankful to Dr. M. Ravindranathan D.G.M. (R&D), I.P.C.L., Baroda for providing necessary facilities to obtain surface area and pore volume. I am indebted to Dr.A.M.Mishra, Head (R&D) G.A.C.L., Baroda for IR and FTIR Spectra and to Dr. M. A. Limaye, Department of Geology, M.S. University of Baroda for perfoming SEM studies.

Many thanks are due to Dr. D.T.Gokak and Mr.Bharat Newalkar for helpful discussions. I am also thankful to Dr.A.V.Vyas Head (R&D) M.J.I.R., for providing facilities of GC and Dr. Neelima Kulkarni for her valuable guidance in homogeneous catalysis. I take this opportunity to thank Dr. S. S. Madhavarao and Mr. S.L.Patel for their timely elemental analysis. I am thankful to Mrs. Jesal Gandhi and Mr. H.R. Rawal for thermal and spectral analysis.

I am personally thankful to my collegues and friends Dr. Jacob John, Mr. Mahesh Dalal, Mr. Robin Anthony, Mr. Sailesh Patel, Mr. Ajay Shah, Mr. Jignesh Patel and Mr. Jayesh Bhrambhatt for their co-operation.

I am thankful to teaching and non-teaching staff of the chemistry department for their moral support and kind co-operation.

I acknowledge the financial assistance extended by Lupin Laboratories (Ankleshwar) for the present work.

I am thankful to Mr. Sanjay Patel for Prompt and neat typing of the manuscript.

Finally, I am at loss of words to convey my heartfelt thanks and obligations to my parents, wife, brother and sister for their patience and encouragement during the course of the present investigation.

(Dilip Patel)